

SUSANA MARTINEZ Governor JOHN A. SANCHEZ Lieutenant Governor

NEW MEXICO ENVIRONMENT DEPARTMENT

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RYAN FLYNN Cabinet Secretary BUTCH TONGATE Deputy Secretary

Certified Mail - Return Receipt Requested

May 10, 2016

Mr. Elauterio Trujillo, President Mora Mutual Domestic Water and Sewer Association Post Office Box 304 Mora, New Mexico 87732

RE: Minor Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Mora Mutual Domestic Water and Sewer Association, NM0024966, April 27, 2016

Dear Mr. Trujillo:

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and advised to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the findings in the NMED inspection report, please contact us (see the address below) in writing within 30 days from the date of this letter. Further you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Racquel Douglas US Environmental Protection Agency, Region VI Enforcement Branch (6EN-WM) Fountain Place 1445 Ross Avenue Dallas, Texas 75202-2733 Bruce Yurdin
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

If you have any questions about this inspection report, please contact Sandra Gabaldon at (505) 827-1041 or at sandra.gabaldon@state.nm.us.

Sincerely,

/s/ Bruce J. Yurdin

Bruce J. Yurdin Program Manager Point Source Regulation Section Surface Water Quality Bureau

cc: Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail Racquel Douglas, USEPA (6EN-WM) by e-mail Gladys Gooden-Jackson (6EN-WC) by e-mail NMED District II, Manager, by e-mail

Form Approved OMB No. 2040-0003 Approval Expires 7-31-85



NPDES Compliance Inspection Report

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EPA Form 3560-3 (Rev. 9-94) Previous editions are obsolete.

MORA MUTIAL DOMESTIC WATER & SEWER ASSOCIATION	PERMIT NO. NM0024996
SECTION A – PERMIT VERIFICATION	
PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS \[\begin{align*} \b	EXPLANATION ATTACHED <u>NO</u>)
1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE	⊠ y □ n □ na
2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES	□ y □ n ⊠ na
3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT	⊠ y □ n □ na
4. ALL DISCHARGES ARE PERMITTED	⊠ y □ n □ na
SECTION B – RECORDKEEPING AND REPORTING EVALUATION	
RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. S M U NA (FURTHER DETAILS:	R EXPLANATION ATTACHED <u>YES)</u>
1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.	□y ⊠ n □ na
2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.	□s ⋈ m □ u □ na
a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING	⊠ y □ n □ na
b) NAME OF INDIVIDUAL PERFORMING SAMPLING	⊠ y □ n □ na
c) ANALYTICAL METHODS AND TECHNIQUES.	⊠ y □ n □ na
d) RESULTS OF ANALYSES AND CALIBRATIONS.	⊠ y □ n □ na
e) DATES AND TIMES OF ANALYSES.	□ y ⊠ n □ na
f) NAME OF PERSON(S) PERFORMING ANALYSES.	⊠ y □ n □ na
3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.	□s⊠m□u □nA
4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.	□ S ⊠ M □ U □ NA
5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA.	□ y ⋈ n □ na
SECTION C – OPERATIONS AND MAINTENANCE	
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. S M X U NA (FURTHER DETAILS:	R EXPLANATION ATTACHED <u>YES)</u>
1. TREATMENT UNITS PROPERLY OPERATED.	□s □m 図 U □na
2. TREATMENT UNITS PROPERLY MAINTAINED.	□s □m ⊠u □na
3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.	⊠s □ m □ u □ na
4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	⊠s□m□u□na
5. ALL NEEDED TREATMENT UNITS IN SERVICE	□s □m ⊠u □na
6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.	□s⊠m □u □na
7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.	⊠s □m □u □na
8. OPERATION AND MAINTENANCE MANUAL AVAILABLE. STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED. PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.	□y⊠n□na □y⊠n□na □y⊠n□na

MORA MUTIAL DOMESTIC WATER & SEWER ASSOCIATION	PERMIT NO. NM0024996
SECTION C – OPERATIONS AND MAINTENANCE (CONT'D)	
9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR? IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED? HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?	□ y ⊠ n □ na □ y □ n ⊠ na □y □ n ⊠ na
10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT? IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?	⊠y□n□nA □y⊠n□nA
SECTION D – SELF-MONITORING	
PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. S S M U NA (FURTHER EXPLAILS:	NATION ATTACHED <u>NO</u>).
1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.	⊠ y □ n □ na
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	⊠ y □ n □ nA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.	\square Y \square N \boxtimes NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT.	⊠ y □ n □ na
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.	⊠y □ n □ na
6. SAMPLE COLLECTION PROCEDURES ADEQUATE	⊠ y □ n □ na
a) SAMPLES REFRIGERATED DURING COMPOSITING.	□ y □ n ⊠ na
b) PROPER PRESERVATION TECHNIQUES USED.	ĭ Y □ N □ NA
c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3. Holding times not recorded from LV WWTP (E.coli, BC	DD, TSS)
7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE	□ y □ n ⊠ na
THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT?	
SECTION E – FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. □ S □ M ☒ U □ NA (FURTHER EXPLAIDETAILS:	NATION ATTACHED <u>YES</u>)
PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. TYPE OF DEVICE: Facility has no effluent device	□y ⊠ n □ na
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.	\square Y \boxtimes N \square NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED.	\square Y \boxtimes N \square NA
4. CALIBRATION FREQUENCY ADEQUATE. RECORDS MAINTAINED OF CALIBRATION PROCEDURES. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.	$\begin{array}{c c} \square \ Y & \boxtimes \ N & \square \ NA \\ \hline \square \ Y & \boxtimes \ N & \square \ NA \\ \hline \square \ Y & \boxtimes \ N & \square \ NA \end{array}$
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.	\square Y \square N \boxtimes NA
6. HEAD MEASURED AT PROPER LOCATION.	\square Y \square N \boxtimes NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES.	□ y □ n ⊠ na
SECTION F – LABORATORY	
PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS.	NATION ATTACHED <u>YES)</u>
1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)	□ y ⊠ N □ NA

	MORA MUTIAI	L DOMESTIC W	ATER & SEWE	R ASSOCIATIO	N	PERMIT NO	. NM0024996			
SECTION F - LAI	BORATORY (CONT'	D)								
2. IF ALTERNATIVE	ANALYTICAL PROCEI	OURES ARE USED, PRO	PER APPROVAL HAS E	BEEN OBTAINED		□ y □ n D	⊠ _{NA}			
3. SATISFACTORY O	CALIBRATION AND MA	INTENANCE OF INSTR	UMENTS AND EQUIPM	MENT.		⊠s□m□u□	□ na			
4. QUALITY CONTR	. QUALITY CONTROL PROCEDURES ADEQUATE.									
5. DUPLICATE SAM	DUPLICATE SAMPLES ARE ANALYZED. 0 % OF THE TIME. □ Y ☒ N □ NA									
6. SPIKED SAMPLES	6. SPIKED SAMPLES ARE ANALYZED. 0 % OF THE TIME.									
7. COMMERCIAL LA	ABORATORY USED.					⊠y□n [□ NA			
LAB NAME <u>La</u>	s Vegas WWTP Laborator	ry	Hall Environ	mental	Bio-Aquatics					
LAB ADDRESS	903 University Ave.; La	s Vegas, NM 87701	4901 Hawkir	ns, NE; Albuquerque, NM	2501 Mayes F	Rd # 100, Carrollton, TX	<u>75006</u>			
PARAMETERS PEI	RFORMED <u>TSS, BOD</u>), E. coli	Total Nitrog	en, Total Phosphorus	Biomonitoring	(WET)				
SECTION G - EF	FLUENT/RECEIVIN	G WATERS OBSER	vations.	s □ m ⊠ u □ NA	\(\square\) (FURTHER EXPLANATIO	N ATTACHED YES).				
OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER			
001	NO	NO	NO	NO	YES	GREEN				
RECEIVING WATER	OBSERVATIONS R	eceiving water had consid	erable algal growth, which	is in indication of TN and	<u>1 TP.</u>					
SECTION H - SLU	JDGE DISPOSAL									
SLUDGE DISPOSAL DETAILS: Not Eval	. MEETS PERMIT REQU	JIREMENTS.		s □ m □ u □ NA	A (FURTHER EXPLANATIO	N ATTACHED <u>NO</u>).				
1. SLUDGE MANAC	SEMENT ADEQUATE TO	O MAINTAIN EFFLUEN	T QUALITY.			□ѕ□м□и□	□ NA			
2. SLUDGE RECOR	DS MAINTAINED AS RE	EQUIRED BY 40 CFR 50	3.			□ѕ□м□и□] NA			
3. FOR LAND APPL	IED SLUDGE, TYPE OF	LAND APPLIED TO: a	gricultural (e.g., FOREST, AGRICUL	TURAL, PUBLIC CONT	CACT SITE)				
SECTION I - SAN	MPLING INSPECTION	ON PROCEDURES	(FURTHER EXPLANATION	ATTACHED).						
1. SAMPLES OBTAI	NED THIS INSPECTION	Ι.				\square Y \boxtimes N	□ NA			
2. TYPE OF SAMPL	E OBTAINED									
GRAB	COM	MPOSITE SAMPLE	METHOD FR	EQUENCY						
3. SAMPLES PRESE	3. SAMPLES PRESERVED.									
4. FLOW PROPORT	4. FLOW PROPORTIONED SAMPLES OBTAINED.									
5. SAMPLE OBTAIN	ED FROM FACILITY'S									
	5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE.									
6. SAMPLE REPRES	5. SAMPLE REPRESENTATIVE OF VOLUME AND MATURE OF DISCHARGE.									
6. SAMPLE REPRES 7. SAMPLE SPLIT W			SCHARGE.				□ NA			
7. SAMPLE SPLIT W		E AND MATURE OF DI	SCHARGE.			□у□и[□ na			

Mora Mutual Domestic Water and Sewer Association

NPDES Permit No. NM0024996

Compliance Evaluation Inspection

Inspection Date: April 27, 2016

Introduction:

A Compliance Evaluation Inspection (CEI) was conducted at the Mora Wastewater Treatment Plant (WWTP) managed by the Mora Mutual Domestic Water and Sewer Association (Association) on April 27, 2016 by Sandra Gabaldón and Daniel Valenta of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the federal Clean Water Act (CWA). USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representative, observations made by the NMED inspectors, and records and reports kept by the permittee, NMED and/or USEPA. Findings of the inspection are detailed on the attached EPA form 3560-3 and in the narrative Further Explanations section of this report.

The Mora WWTP is classified as a minor municipal discharger with a design capacity flow of 0.05 Million Gallons per Day (MGD). The discharge from the WWTP enters the Mora River in the Canadian River Basin in segment 20.6.4.307 of 20.6.4 NMAC State of New Mexico Standards for Interstate and Intrastate Surface Waters. The designated uses for this segment of the river are: marginal coldwater aquatic live, warmwater aquatic life, primary contact, irrigation, livestock watering and wildlife habitat. This segment of the Mora River is 303(d) listed as not supporting marginal coldwater aquatic life. Probable causes of impairment include nutrient / eutrophication, biological indicators and dissolved oxygen. A Total Maximum Daily Load (TMDL) has been calculated and implemented for this segment of Mora River. Thus, included in the NPDES permit for the Mora WWTP are discharge limitations for Total Nitrogen and Total Phosphorus.

Administrative Order:

EPA issued an Administrative Order (AO), CWA-06-2012-1830 on June 21, 2012. The alleged violations of this order are:

- 1. Failure to meet effluent limitations for Biochemical Oxygen Demand and Total Suspended Solids; and
- 2. Failure to properly operate and maintain the facility.

No monetary penalty was assessed but the AO required Mora Mutual Domestic Water and Sewer Association to begin construction of a new WWTP on October 1, 2012 with completion of the new WWTP on October 31, 2013.

The WWTP has been submitting quarterly progress notes as required by the AO.

Treatment Scheme:

The treatment system previously was a lagoon system which consisted of two lagoons, North and South lagoons. Chlorination, de-chlorination and then discharge to the Mora River. The lagoons are still available for storage if the system becomes overwhelmed with influent flow (north lagoon) and for sludge (south lagoon).

Currently, the facility has a new Moving Bed Biofilm Reactor (MBBR) system. The MBBR system is **NONFUNCTIONAL** at this time. The MBBR was originally slated to be completed in 2014. However, due to unforeseen circumstances with the contract, contractors and design and build suppliers, the facility is now in a state of disrepair.

When the system is *functional*, the treatment scheme is as follows:

Treatment begins when wastewater is gravity fed from the collection system and directed to the existing influent Parshall Flume with an approximately 1" manual bar screen. Solids are removed and disposed of at the regional landfill. Flow is then directed to the "trash tank" where smaller solids, trash, grit and oils and grease are removed from the waste stream. The north lagoon acts like an emergency storage pond, if the system receives a high volume of influent. The flow from the north lagoon has to be manually turned on with a valve in order to discharge. Any remaining products in the trash tank will undergo a partial anaerobic digestion to form a layer of sludge. Floatables in the form of scum and grease will rise to the surface and be maintained in the trash tank with an effluent baffle. An access is located at the center of the trash tank to allow servicing. Periodic pumping of the trash tank is required to maintain the tank in good condition. Pumping of any settled solids will be through a grinder pump that discharges to the aerobic sludge digester for final waste sludge pumping to the south lagoon for final storage. Trash tank effluent discharges by gravity to an ADF flow equalization chamber which provides temporary storage of peak flows and initiates aerobic treatment in a staged aerobic treatment process. Flow entering the EQ basin it is aerated to maximize mixing of dissolved substrates and oxygen transfer utilizing stainless steel diffusers. A duplex alternating submersible electric pumping system provides constant flow rate pumping to the downstream bioreactors. Pump rates are designed to match average flows for a 24 hour period. By pumping at a slow and constant rate, the treatment system optimizes the biological and mechanical treatment efficiently. An adjustable chemical feed will supply alkalinity should influent levels be insufficient for adequate nitrification in subsequent processes. A float switch system provides water level monitoring and influent pump control. A flow meter function programmed into the WWTP provides continuous monitoring of the system flow. High and low water floats provide alarming capability in the event of a high or low water condition. Hatches are located in

the influent and effluent ends of the tank for inspection and access. Effluent is pumped to a flow splitter to direct the flow into two identical parallel bioreactor treatment trains.

Biological treatment begins with an anaerobic mixing chamber where biological uptake of phosphorus occurs (luxury uptake). The anaerobic process is a slow mix system that allows influent to combine with return activated sludge where the lack of no dissolved oxygen will promote an anaerobic biomass conducive to phosphorus uptake. An anoxic mixing chamber follows the anaerobic system which initiates advanced biological nitrogen removal before the wastewater passes to the MBBR aerobic bioreactors.

Within the MBBR bioreactor, the influent provides an organic food source for living microorganisms that colonize and populate the bioreactors. The microorganisms consume the incoming organic food source which reduces Biochemical Oxygen Demand (BOD) concentrations in the waste stream. Treatment in the multi-stage MBBR aerobic bioreactor consists of pressurized air injection into the aerobic biomass by way of an electrical blower assembly. A fixed film biological treatment process provides advanced digestion or organics by allowing a biological film attached to a free flowing plastic media to form and thrive. The biofilm utilizes oxygen from the aeration system and organic food sources from the influent wastewater to complete the treatment process. The fixed film biology represents a higher order robust biology capable of excellent BOD and nitrogen removal.

A carbon feed is introduced to the post anoxic MBBR chamber to supply additional substrate for biological metabolism necessary for nitrate polishing. The free floating plastic media are retained in the MBBR chambers through the use of media retention screens specifically installed to prevent media transport upstream or downstream of the bioreactors. Access hatches provide access to each stage of the MBBR system.

Effluent from the multi-stage MBBR flows to the chemical reactor in the mixing compartment where advanced treatment begins. The treatment consists of static mixing reagent injection for reaction with metals and associated particulates followed by a 60 second last HRT mix tank which is then followed by a flocculant injection and a 50 minute slow mix reactor. The slow mix reactor allows the precipitant components to form a large fluffy floc that can be settled by gravity and polished by effluent filtration. The fast mix and slow mix chambers maintain a constant water level and provide the necessary mixing functionality to ensure chemical reaction with the remaining phosphorus load not removed by the anaerobic process.

Effluent passes to multi-stage secondary clarifiers for final treatment. In the secondary clarifiers, sloughed biofilm and suspended biomass discharged from the plastic film mixed media combined with free floating biomass will descend by gravity to the bottom of the secondary clarifiers. Positive displacement air lift pumps will pump concentrated solids and waste biomass to the sludge digester chamber. The clarified wastewater then travels through gravity to a 10 microgram minidisk filter for effluent polishing.

After discharge from the biological treatment system, the filtered effluent will flow to a disinfection system with redundant ultraviolet light disinfection units.

After disinfection, effluent flows to a sampling structure and then to the Mora River.

Major Issues Encountered:

In January 2014, Fidelity and Deposit Company issued Bond #9111288 on behalf of Con-Tech Engineering Solutions LLC in favor of EIP Water, LLC, Principal, and the Association via a dual obligee rider.

On January 19, 2016, the USDA sent a letter to EIP Water, LLC, with the following information:

March 4, 2014: USDA Rural Development concurred on Mutual Domestic Water & Sewer Associations' selection of EIP Water, LLC to provide Design/build services for the construction of the WWTP.

The use of EJCDC-520 (2009) "Owner/Builder Agreement" contract format was used with USDA-RD being a funding participant.

The USDA-RD has disbursed Federal Dollars in the amount of \$1,313,920.66 as of June 10, 2015 for the construction of the WWTP. USDA-RD has received numerous complaints from suppliers and contractors working on the project about late payments from EIP Water, LLC.

- EIP Water, LLC, is required to submit all sub-contractor and supplier invoices in conjunction with the Mora MDW& SA Wastewater Treatment project
- EIP Water, LLC must submit bank statements and or canceled checks to show proof of payment to sub-contractors and suppliers for the project.
- EIP Water, LLC must submit account record for federal funds received and disbursed to subcontractors and supplies for the project.

On February 2, 2016, the Association submitted a notice to the bonding company of their intent to reject the project and file on the bonds because after 10 months of correspondence with Con-Tech and EIP Water, LLC, the Association has reached the conclusion that the Design/Build organization is unable to meet its contract obligations. According to the Association, the project remains incomplete and the plant is still unable to treat the wastewater to the performance warranty standards agreed upon by all parties. The Association further states that they plan on rejecting the defective equipment and construction of the WWTP in its entirety.

In March 2016, ongoing communication with Con-Tech and ACS Engineering (Engineer of Record) continues and the Association is notified that EIP Water, LLC, will file for bankruptcy.

On April 11, 2016 Con-Tech provides the Association with a possible solution. Con-Tech offers \$150,000 in a lump payment in exchange for release of liability. The association requires that Con-Tech make the necessary corrections to the plant at whatever cost is required.

On April 15, 2016, the Association is notified by ACS Engineering that they will be taking over the responsibility of the repairs and modifications needed to re-commission the plant. Con-tech will fund all repairs.

The Association is currently awaiting the schedule of construction and completion of the project. A meeting was scheduled for April 22, 2016.

Mora Mutual Domestic Water and Sewer Association NPDES Permit No. NM0024996 Compliance Evaluation Inspection

Inspection Date: April 27, 2016

Further Explanations:

Section A – Permit Verification:

The Mora Mutual Domestic Water and Sewer Association's NPDES permit expired on October 31, 2013. The application was received by EPA on May 3, 2013 with additional information received on October 18, 2013. The application was reviewed and determined to be administratively complete on January 29, 2014.

Section B - Recordkeeping and Reporting - Overall Rating of "Marginal"

The permit requires in Part III, C.4:

Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) and time(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods use; and
- f. The results of such analyses.

The permit requires in Part III, D.4:

Monitoring results must be reported on DMR From EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. The permittee shall submit the original DMR signed and certified as required by Part III.D1 1 and all other reports required by Part III.D to EPA. DMRS and all other reports shall be submitted to EPA, New Mexico Environment Department. A copy of Whole Effluent Toxicity Testing shall also be sent to:

U.S. Fish and Wildlife Service New Mexico Ecological Services 2105 Osuna, NE Albuquerque, NM 87113 Attn: Field Supervisor Findings for Recordkeeping and Reporting:

The facility does not have Chain of Custody (COC) records from the Las Vegas WWTP, where E. coli, BOD and TSS are analyzed. The facility is required to provide COCs in all samples that a contract laboratory is used.

The Las Vegas WWTP does Total Suspended Solids (TSS) analyses for the permittee. In review of their benchsheet for TSS, it appears that the contract laboratory is miscalculating the TSS results. On January 7, 2016, there were two bottles used. The 1st weight of bottle (3) + dish was 1.4315, the 2nd weight of weight of dry sample was 1.4341. The calculation used for TSS is:

(Weight of Filter + Dry Residue – Weight of filter) x 1,000,000 Sample Volume, mL

The sample volume used is 400 mL.

So, the calculation is:

(1.4341 – 1.4315) X 1,000,000 400 mL = 6.50 mg/L

The 1^{st} weight of bottle (11) + dish was 1.4406, the 2^{nd} weight of weight of dry sample was 1.4434. The calculation used for TSS is:

(1.4434 – 1.4406) X 1,000,000 400 mL = 7.00 mg/L

Monthly Avg. = 6.75 mg/L

The benchsheet states that the results are 6.25 mg/L. It is suggested that the permittee re-calculate all results received from the contract laboratory to insure that the results being reported on the DMR are correct. The sample results reported on the DMR are 6.50 mg/L, but the calculated results should be 6.75 mg/L for the 30-day average. These results will also change the mass loading calculations for the DMR as well.

There is no effluent flow device. Discharge flow measurement is necessary to give an accurate result of mass loading. Because there is no effluent flow device, the permittee has been using the flow from the influent Parshall flume and staff gauge. This may, or may not be an accurate picture of the discharge flow and therefore may result in inaccurate mass loading calculations.

The Las Vegas WWTP does not record the time of analysis for TSS, Biochemical Oxygen Demand (BOD) or the time for E. coli. There is no way for the inspector to verify that holding times are being followed according to 40 CFR 136. It is necessary that the contract laboratory record all information as required by Part III, C.4 of the permit.

Also, the BOD benchsheet states that the Las Vegas WWTP has checked for Chlorine prior to performing BOD analysis. However, there are no actual results recorded. The contract laboratory only uses a "check mark" rather than a numerical value. The contract laboratory should record a numerical value to clarify that there is no chlorine present in the sample, as it is suggested on the benchsheet.

The sample for BOD from January 7, 2016 had two Glucose-Glutamic Standards done. One standard was out of tolerance at 166. The laboratory may consider adjusting their seed to allow both standards to meet the tolerance of 198±30. (The GGA standards were 166 and 168).

It is unknown if the permittee has submitted their Whole Effluent Testing results to the U.S. Fish and Wildlife Service. If they have not yet done so, they should proceed to do so immediately.

The permittee has Total Phosphorus and Total Nitrogen requirements in their permit. The inspector suspects that the permittee is calculating their loading incorrectly, as their concentration is higher than their loading results on their DMRs (see Effluent / Receiving Waters section).

The correct calculation for mass loading is as follows:

Flow (MGD) x concentration (mg/L) x 8.34 = Mass Loading

Section C – Operating and Maintenance – Overall Rating of "Unsatisfactory"

The permit requires in Part III, B. 3

- a. The permittee shall provide at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when operation is necessary to achieve compliance with the conditions of this permit.
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

<u>Findings</u> for Operation and Maintenance:

The facility is in disrepair at the present time. Because there have been so many issues with the design/builder, the facility has suffered numerous setbacks. Please refer to the above section "Major Issues Encountered". Once the facility has been placed into a functioning capacity, it may be necessary to re-evaluate Operation and Maintenance.

The operator, Clarence Aragon, is a NM Certified Operator as Water Supply 2, and Wastewater 4. However, Mr. Aragon has not received his laboratory technician certification to sample and analyze pH and Total Chlorine Residual. Mr. Aragon needs to get this certification to continue sampling and analyzing these two parameters.

<u>Section E – Flow Measurement – Overall Rating "Unsatisfactory"</u>

The permit requires in Part III, B.7:

Percent Removal (POTW):

For publicly owned treatment works, the 30-day (or monthly average) percent removal for BOD and TSS shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR 133.103.

The permit requires in Part III, C.6:

Flow Measurements:

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

<u>Findings</u> for Flow Measurement:

The facility has an influent 3" Parshall Flume and a staff gauge at the headworks. There is no flow measurement device, either primary or secondary, prior to the discharge. It is highly recommended that during the facility repairs this issue be addressed.

The permit requires an instantaneous flow measurement daily. This would require a primary flow device be installed prior to discharge to the Mora River. Because there is no device installed at the present time, the operator may consider using the "bucket and stop watch" technique to get a flow

reading of the discharge. The bucket and stop watch technique is useful for small wastewater flows. A minimum of 10 seconds to fill the container is suggested. Three consecutive measurements should be made, and the results should be averaged. This may help the operator in understanding if indeed he does have a system of "flow in = flow out".

Discharge flow measurement is necessary to give an accurate mass loading, especially since this facility has limitations of mass loadings related to a TMDL.

40 CFR 133.103 states:

The minimum level of effluent quality attainable by secondary treatment in terms of the parameters—BOD₅, and SS.

- (a) BOD_5 .
- (1) The 30-day average shall not exceed 30 mg/l.
- (2) The 7-day average shall not exceed 45 mg/l.
- (3) The 30-day average percent removal shall not be less than 85 percent.
- (4) At the option of the NPDES permitting authority, in lieu of the parameter BOD₅ and the levels of the effluent quality specified in paragraphs (a)(1), (a)(2) and (a)(3), the parameter CBOD₅ may substituted with the following levels of the CBOD₅ effluent quality provided:
 - (i) The 30-day average shall not exceed 25 mg/l.
 - (ii) The 7-day average shall not exceed 40 mg/l.
 - (iii) The 30-day average percent removal shall not be less than 85 percent.
- (b) SS.
 - (1) The 30-day average shall not exceed 30 mg/l.
 - (2) The 7-day average shall not exceed 45 mg/l.
 - (3) The 30-day average percent removal shall not be less than 85 percent.

When calculating the percent removal of BOD and TSS, it is necessary to have an accurate effluent and influent flow reading.

Although the percent removal is not in the current permit, it will be a requirement of the new NPDES permit.

<u>Section F - Laboratory - Overall Rating "Unsatisfactory"</u>

The permit requires in Part III, B. 3

c. The permittee shall provide at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when operation is necessary to achieve compliance with the conditions of this permit.

Findings for Laboratory:

The contract laboratory, Las Vegas WWTP, states that the method used for E. coli is "Standard Methods, 20th Ed., Pages 9-60 through 9-61". It appears pages 9-60 through 9-61 may be related to Standard Method 9222 B. Standard Total Coliform Membrane Filter Procedure. According to 40 CFR 136.3, Description of Approved Methods, Bacteria, E. coli approved methods include: 9221.B, 1997; 9221.B, 2006/9221F, 2006; 9223 B-2000; 1603 (EPA); 991.15 (ASTM); Colilert, Colilert-18, mColiBlue-24. Standard Method 9222.B is NOT an approved method for analysis of E. coli. The permittee should request that their contract laboratory use only 40 CFR 136 approved methods in their analyses of E. coli.

The permittee has not performed 10% duplicate sampling as part of their quality assurance program.

Section G – Effluent / Receiving Waters Observations – Overall Rating "Unsatisfactory"

The permit requires in Part I, A.1:

Effluent Characteristics		Li	mitations			
		∕lass ay, unless· e specifi	(mg/l	entration , unless e specified)	Frequency	Sample Type
30-	Day Avg	7-Day Avg.	30-Day Avg.	7-Day Avg.		
Flow STORET: 50050	N/A	N/A	Reporl	Report	Daily	Instantaneous
Biochemical Oxygen Demand (BOD,) STORET:00310	13.0	19.5	30		I/Month	Grab
Total Suspended Solids (TSS) STORET: 00530	39.0	58.5	90	135	I/Month	Grab
Total Residual Chlorine (2) (TRC) STORET: 50060	N/A	N/A		.019 neous Max)	Daily	Grab
E. coli STORET: 51040	N/A	N/A	126	410 (Daily Max)	I/Month	Grab

Total Phosphorous (3)	0.013	0.0195	0.D3	0.045	I/IMonth	Grab
STORET: 00665		(Daily Max)		(Daily Max)		
Total Nitrogen (4)	0.165	0.247	0.38	0.57	I/Month	Grab
STORET: 00625		(Daily Max)		(Daily Max)		
рН	N/A	N/A	6.6s.u.	9.0 s.u.	Daily	Grab
STORET: 00400			Minimum	Maximum		

<u>Findings</u> for Effluent / Receiving Waters:

The permittee has exceeded the following parameters:

TN = Total Nitrogen

TP = Total Phosphorus

Parameter:	Date:	Loading		Conce	ntration	Repo	orted	Repo	orted
		Limitations:		Limita	ations:	Load	ing on	Concent	ration on
						DN	ЛR:	DN	MR:
		30-d	7-day	30-d	7-day	30-d	7-day	30-d	7-day
		Loading	Loading						
TN	07/2014	.165	.247	.38	.57	6.24	6.24	4.80	4.80
TP	07/2014	.013	.0195	.03	.045	.79	.79	.61	.61
TN	08/2014	.165	.247	.38	.57	19.49	19.49	5.70	5.70
TP	08/2014	.013	.0195	.03	.045	2.19	2.19	.64	.64
TN	09/2014	.165	.247	.38	.57	8.16	8.16	5.5	5.5
TP	09/2014	.013	.0195	.03	.045	.94	.94	.63	.63
TN	10/2014	.165	.247	.38	.57	6.46	6.46	6.2	6.2
TP	10/2014	.013	.0195	.03	.045	.35	.35	.34	.34
TN	11/2014	.165	.247	.38	.57	8.44	8.44	11.0	11.0
TP	11/2014	.013	.0195	.03	.045	.75	.75	.98	.98
TN	12/2014	.165	.247	.38	.57	6.31	6.31	14.0	14.0
TP	12/2014	.013	.0195	.03	.045	.59	.59	1.30	1.30
TN	01/2015	.165	.247	.38	.57	4.87	4.87	12.0	12.0
TP	01/2015	.013	.0195	.03	.045	.45	.45	1.1	1.1
TN	02/2015	.165	.247	.38	.57	5.28	5.28	14.0	14.0
TP	02/2015	.013	.0195	.03	.045	.87	.87	2.3	2.3
TN	03/2015	.165	.247	.38	.57	5.28	5.28	14.0	14.0
TP	03/2015	.013	.0195	.03	.045	.81	.81	2.14	2.14
TN	04/2015	.165	.247	.38	.57	4.33	4.33	14.2	14.2
TN	05/2015	.165	.247	.38	.57	7.20	7.20	8.3	8.3
TP	05/2015	.013	.0195	.03	.045	.65	.65	.755	.755
TN	06/2015	.165	.247	.38	.57	7.57	7.57	6.3	6.3
TP	06/2015	.013	.0195	.03	.045	1.01	1.01	.838	.838
TN	07/2015	.165	.247	.38	.57	6.15	6.15	5.5	5.5
TP	07/2015	.013	.0195	.03	.045	.78	.78	.70	.70
TN	08/2015	.165	.247	.38	.57	5.89	5.89	4.5	4.5
TP	08/2015	.013	.0195	.03	.045	.68	.68	.52	.52

TN	09/2015	.165	.247	.38	.57	5.24	5.24	8.0	8.0
TP	09/2015	.013	.0195	.03	.045	.62	.62	.95	.95
TN	01/2016	.165	.247	.38	.57	6.55	6.55	14	14
TP	01/2016	.013	.0195	.03	.045	.84	.84	1.8	1.8
TN	02/2016	.165	.247	.38	.57	4.19	4.19	9.9	9.9
TP	02/2016	.013	.0195	.03	.045	.55	.55	1.3	1.3
TN	03/2016	.165	.247	.38	.54	3.89	3.89	9.6	9.6
TP	03/2016	.013	.0195	.03	.045	.65	.65	1.6	1.6

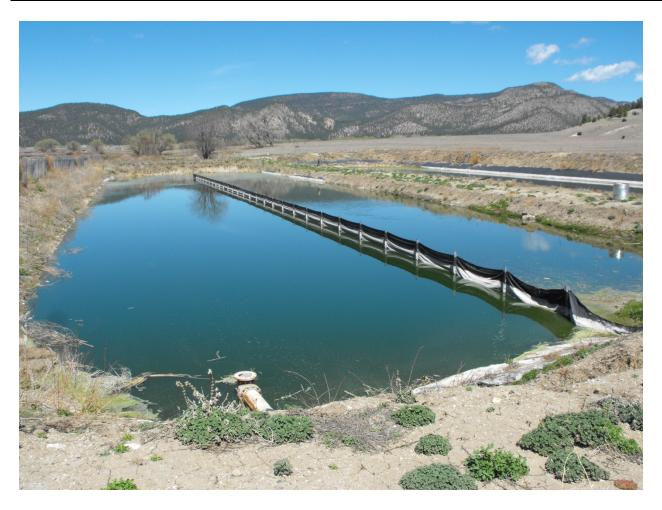
Photographer: Daniel Valenta	Date: April 27, 2016	Time: 1117 Hours					
City/County: Mora / Mora		State: New Mexico					
Location: Mora Mutual Domestic Water and Sewer Association WWTP							
Subject: Overview of plant.							



Photographer: Daniel Valenta	Date: April 27, 2016	Time: 1128 Hours					
City/County: Mora / Mora		State: New Mexico					
Location: Mora Mutual Domestic Water	Location: Mora Mutual Domestic Water and Sewer Association WWTP						
Subject: Overview of plant.							



Photographer: Daniel Valenta	Date: April 27, 2016	Time: 1142 Hours					
City/County: Mora / Mora		State: New Mexico					
Location: Mora Mutual Domestic Water and Sewer Association WWTP							
Subject: South Lagoon.							



Photographer: Daniel Valenta	Date: April 27, 2016	Time: 1143 Hours					
City/County: Mora / Mora		State: New Mexico					
Location: Mora Mutual Domestic Water and Sewer Association WWTP							
Subject: North Lagoon.							



Photographer: Daniel Valenta	Date: April 27, 2016	Time: 1210 Hours
City/County: Mora / Mora		State: New Mexico
Location: Mora Mutual Domestic Water and Sewer Association WWTP		
Subject: Discharge to the Mora River.		

